

## ISSUES AND KEY QUESTIONS

This step of the watershed analysis process helps to focus the analysis on the key elements of the ecosystem that are most relevant to the management questions, human values, or resource conditions within the watershed.

Six issues critical to the future management of this watershed were identified. They are:

- Protection or enhancement of wildlife habitat
- Protection or enhancement of water quality, especially regarding future road management.
- Protection or enhancement of grassy bald habitat.
- Protection or enhancement of fisheries and aquatic species habitat.
- Prevention and control of invasive non-native species.
- Management of fire hazard and risk.

This list of issues was developed by the watershed analysis team with input from the City of Corvallis Rock Creek Municipal Watershed managers and the Marys River Watershed Council.

The following is a description of each issue and the key questions that pertain to each issue. Expected outcomes from the analysis, as a result from each of the key questions, will provide continuity from this step in the process and through the remainder of the analysis.

### *ISSUE 1: HIGH QUALITY WILDLIFE HABITAT MUST BE MAINTAINED OR ENHANCED TO SUPPORT LATE SUCCESSIONAL AND OTHER SPECIES OF CONCERN.*

Habitat for late-successional forest species has been altered in this watershed. The patches of remaining mature forests are fragmented. This raises concerns about maintaining the species that are associated with this habitat type. Improving the amount and distribution of this habitat type and maintaining or enhancing connectivity to areas outside the watershed has been identified as a primary issue.

#### **Key Question:**

Terrestrial vegetation has been altered by management activities over the past few decades and may be outside of the range of natural variability for the Coast Range ecosystem. What is the current condition of late-successional species and habitat in the watershed? How does late-successional forest habitat in the watershed function in the larger landscape or regional context? Where and how can late-successional habitat within the watershed be improved in order to hasten the development of suitable habitat?

*Outcome:* Determine the best remaining habitat areas. Delineation of priority areas for late-successional habitat restoration and the time frame required to achieve those goals.

#### **Key Question:**

Have changes in riparian vegetation characteristics over the last century affected the long-term health and sustainability of these areas and their ability to function as suitable habitat for terrestrial species? Riparian areas have a variety of functions for terrestrial and aquatic species and provide connectivity across the landscape.

*Outcome:* Determine key areas to support terrestrial species connectivity and repair and enhance where connectivity is lacking.

**ISSUE 2: WATER QUALITY DEPENDS ON THE STABILITY OF THE ROAD SYSTEM.**

Scattered areas within the watershed are underlain by slumps and earthflows. For example, Road 3405-113 is a mid-slope road on the east face of Marys Peak, and crosses several earthflows and slumps. Much of the road system was built in the 1950's for logging access. As the road system ages, maintenance is required and culverts need to be replaced. For the foreseeable future, maintenance dollars are limited.

**Key Question:**

What is the current condition of the road system within the analysis area? Are there areas of perched sidecast material? Are there culverts in need of replacement?

*Outcome:* Current condition of roads and culverts. Delineation of priority treatment areas and identification of appropriate techniques to protect water quality.

**ISSUE 3: CONIFER INVASION IS REDUCING THE AMOUNT OF GRASSY BALD UNIQUE HABITAT.**

Magee (1984) investigated tree invasion patterns in the grassy balds of Marys Peak. She speculated that infrequent fires on the summit could maintain the bald; however, she documented conditions favoring encroachment as they varied among the community types. Recent aerial photographs have raised the concern of conifers invading the grassy bald.

**Key question**

What is the current condition of the grassy balds as compared to the historic condition?

*Outcome:* Identified opportunities to maintain or enhance this unique habitat.

**ISSUE 4: FISH PASSAGE, PRIMARILY FOR CUTTHROAT TROUT, IS COMPROMISED BY BLOCKAGES FROM CULVERTS AND WATER DIVERSIONS.**

Marys River and Greasy Creek stream-adjacent land use is dominated by valley agriculture and urban development. Stream and riparian habitats have been highly modified by agriculture pastures, scattered private residences, road/stream crossings, and stream bank stabilization. Therefore, the relatively undisturbed riparian zones and stream habitat in the analysis area served as an important refuge habitat. Eliminating fish passage barriers will allow greater use of high quality refuge fish habitat.

**Key Question:**

How much habitat is blocked by culverts or water diversions?

*Outcome:* Culvert survey to determine fish passage blockages. Delineation of priority treatment areas and identification of appropriate techniques to provide fish passage.

**ISSUE 5: INVASIVE PLANTS AND NOXIOUS WEEDS THREATEN NATIVE PLANT COMMUNITIES.**

A number of non-native plants are known to occur in the Marys Peak area and are likely present in the Watershed.

**Key Question:**

What is the current condition of invasive plants and noxious weeds within the watershed?

*Outcome:* Survey to determine the extent of invasive plants and noxious weeds. Identify and delineate priority treatment areas for appropriate techniques to prevent or control invasive plants or noxious weeds.

**ISSUE 6: FIRE HAZARD AND RISK**

Fire is the primary large scale disturbance agent on vegetation in the Oregon Coast Range though these disturbances occur infrequently.

**Key Question:**

What is the current condition of fire hazard and risk?

*Outcome:* Review fire frequency and fire intensity models. Review fire historical records.